

## TOBACCO SMOKE EFFECTS

PARAMETER	TISSUE	SPECIES	EXP	TYPE	SOURCE	REMARKS
IgE	-	man	C	M	Zetterstro em, 1981, 437-G6	-
IgG	blood	man	-	M	Onari, 1978, 18-B26	-
		man	C	?	Andersen, 1982, 101-A1	-
IgM	blood	man	C	M	Cederqvist , 1984, 428-A7	-
immune response to transplanted tumors	-	mouse	C	M	Chalmer, 1975, 804-A13	-
					Thomas, 1975, 13-K19	-
					Holt, 1976, 822-C10	-
immunity	lymph node	mouse	-	M	Thomas, 1975, 13-K19	-
interferon	L-929 cells	mouse	A	S	Sonnenfeld , 1986, 662-E12	-
interleukin 1 release	macrophag e	man	C	M	Brown, 1988, 1189-A1	decrease
interleukins	blood	man	A	E	Hockertz, 1993, Titisee	no change
intracellular cell communication culture		rat	-	M	McKarns, 1990, -	smoking article comparison
		human		M	McKarns, 1990, -	smoking article comparison
iron content	macrophag e alv.	man	C	M	Rich, 1988,	increase

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PARAMETER	TISSUE	SPECIES	EXP	TYPE	SOURCE	REMARKS
					1308-E11	
lactate dehydrogenase	blood	rat	A	M	Chow, 1982, 1393-A12	no effect; vitamin E
larynx tumors	-	man	C	M	Mathe, 1988, 1316-F4	epidemiology
leucocyte, number	blood	man	C	M	Petersen, 1983, 341-D14	-
	BAL	mouse	C	M	Kew, 1987, 977-B9	increase
	blood	man	C	-	Zalokar, 1981, 269-F11 Noble, 1975, 18-B20	- -
leucocytes	blood	man	-	M	Sparrow, 1984, 817-D4	-
leukotriene	BALF	rabbit	A	M	Witten, 1988, 1350-F11	decrease
leukotriene synthesis	macrophage	rat	B	M	Mobley, 1987, TS 036	decrease
LH	serum	rat	A	M	Andersson, 1987, 1024-A1	no effect
lipid peroxidation	liver	rat	B	M	Gupta, 1988, 1215-A8	no effect
lipid peroxidation	-	man	C	M	Shariff, 1988, 1195-E8	pentane extraction, vit. E
	lungs	rat	B	M	Gupta, 1988, 1215-A8	increase

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## TOBACCO SMOKE EFFECTS

PARAMETER	TISSUE	SPECIES	EXP	TYPE	SOURCE	REMARKS
longevity	-	mouse	C	M	Campbell, 1936, D7536	increase
		rat		M	Wehner, 1981, 15-N21	no effect
		hamster		M	Wehner, 1976, D7543	increase
lung function	-	man	A	E	Magnussen, 1993, Titisee	impairment of asthma
lung tumors	-	man	C	M	Mathe, 1988, 1316-F4	epidemiology
luteinizing hormone	serum	rat	A	M	Andersson, 1988, 1054-A1	decrease
lymphocyte concentration	BALF	rabbit	A	M	Witten, 1988, 1350-F11	decrease
lysosomal activity	macrophag e	man	-	M	Martin, 1973, 198-A8	-
		rat		M	Barry, 1972, 298-A2	-
lysozyme activity	macrophag e	rat	C	M	Gregson, 1981, 20-K6	-
macrophage activity	lung lavage	man	C	M	Hubbard, 1987, 1226-C8 Hubbard, 1987, -	increased H2O2 production increased H2O2 production
macrophage, number	-	man	C	M	Ando, 1984, 819-A7	-

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PARAMETER	TISSUE	SPECIES	EXP	TYPE	SOURCE	REMARKS
macrophage, number	-	hamster	B	M	Harada, 1984, 809-B14	-
		man	C	M	Fisher, 1982, 68-A1	-
macrophage, size	-	rat	C	M	Drath, 1980, 804-B14	-
macrophage, vacuolization	lung	mouse	C	M	Matulionis , 1984, 348-C11	-
magnesium concentration	blood	man	C	M	Sulsky, 1988, 1195-F14	decrease
malanodialdehy de (MDA)	serum	man	C	M	Nadiger, 1987, 1048-E11	lipid peroxidation marker
malondialdehy de	blood	man	C	M	Kalra, 1991, 1592-D13	increase (TBA method)
	serum	man	C	M	Kalra, 1991, 1592-D13	increase (TBA method)
mast cell density	resp. epithel.	man	-	M	Lamb, 1982, 818-E7	-
mast cells	lung	monkey	-	M	Walter, 1982, 819-G10	-
micronuclei	bone marrow	mouse	B	M	Lee, 1990, -	smoking article comparison
monoamino oxidase (MAO) activity	lung	man	C	M	Sass, 1989, -	inhibition in vitro
monocyte expression	monocytes	man	C	M	Ziegler-He itbrock, 1988, 1189-G11	unaltered

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## TOBACCO SMOKE EFFECTS

PARAMETER	TISSUE	SPECIES	EXP	TYPE	SOURCE	REMARKS
morphometry	lungs	hamster	A	M	Takada, 1988, 1073-F1	synergist. effect with bleomyc
mortality	-	rat	B	-	Binns, 1978, 20-C18	-
mucous cell metaplasia	lungs	man	C	E	Trichipoul os, 1992,	-
mutagenicity	urine	man	C	M	van Doorn, 1979, 41-F3	-
					Sirtori, 1978, nd	-
					Yamasaki, 1977, 346-G8	-
					Dolara, 1981, 93-C5	-
					Putzrath, 1981, 13-F13	-
		rat	A	S	Aeschbacher, 1981, 93-A1	-
					Schenker, 1988, 1189-D14	increase
					Schenker, 1985, 552-G12	-
		man	C	M	Mohtashami pur, 1984, 354-E12	-
					Mohtashami pur, 1984, 354-E12	-
N-nitrosodime thylamine	lungs	man	C	M	Gellbart, 1980, 804-C14	-
					Pasquini, 1988, 1333-F4	no effect

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PARAMETER	TISSUE	SPECIES	EXP	TYPE	SOURCE	REMARKS
NADPH cytochrome c reductase	liver	man	C	M	Remmer, 1987, 1231-E3	no effect
natural killer cells	blood	man	A	E	Hockertz, 1993, Titisee	increase
NDMA demethylase	lung	rat	A	M	Pasquini, 1987, 1154-D1	no effect (MWSC, SWSC i. p.)
				S	Pasquini, 1987, 1154-D1	no effect (MWSC, SWSC i. p.)
	liver	rat	A	S	Pasquini, 1987, 1154-D1	no effect (MWSC, SWSC i. p.)
				M	Pasquini, 1987, 1154-D1	no effect (MWSC, SWSC i. p.)
necrosis	chorioallantoic	chicken	A	M	Comber, 1973, 41-A1	condensate
nitrosoprolin e excretion	urine	man	C	M	Wogan, 1989, 1500-G3	increase
NK cell activity	blood	man	-	M	Ferson, 1979, 428-A11	-
	spleen	monkey	C	M	Sopori, 1985, 640-F9	decrease
NNK-derived globin adduct	blood	man	C	M	Falter, 1993, Titisee	also in nonsmokers
NTB reduction	macrophag e	man	C	M	Ando, 1984, 819-A7	-
O6-methylguan ine-DNA	free lung cells	man	C	M	Vaehaekang as, 1991,	no effect

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## TOBACCO SMOKE EFFECTS

PARAMETER	TISSUE	SPECIES	EXP	TYPE	SOURCE	REMARKS
methyltransfe rase						
okt4+/okt8+	-	man	C	M	Miller, 1982, 817-C3	-
	blood	man	C	M	Miller, 1982, 817-C3	-
oral tumors	-	man	C	M	Mathe, 1988, 1316-F4	epidemiology
organ weight	lungs	rat	A	M	Chow, 1982, 1393-A12	no effect, vitamin E
oxidative phosphorylati on	mitochond ria,	-	-	-	Kyle, 1970, -	lung, cited in FEP 75/2, p.389
oxygen consumption	macrophag e	rat	C	M	Drath, 1980, 804-B14	-
PAH excretion	urine	man	C	M	Becker, 1983, TS 040	B(a)P metabolites
particle clearance half-time	lungs	rabbit	A	M	Witten, 1988, 1350-F11	decrease
permeability of bronchial mucosa	lung	guinea pig	-	M	Hulbert, 1980, 533-B13	-
phagocyte chemoluminesc ence	plasma	man	C	M	van Rensburg, 1989, 1395-G7	increase
phagocytosis	PMN, peritonea l	mouse	C	M	Keast, 1983, 803-B9	complement, killing
	lung	man	C	M	Fisher, 1982, 68-A1	-

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## TOBACCO SMOKE EFFECTS

PARAMETER	TISSUE	SPECIES	EXP	TYPE	SOURCE	REMARKS
phagocytosis	macrophage	rat	C	M	Drath, 1980, 804-B14	-
phagocytosis of tobacco antigens	blood	man	C	-	Romanski, 1984, 428-F3	-
phagolysosome fusion	macrophage	rat	B	M	Harris, 1984, 348-B5	-
pharmacokinetics, diverse	whole body	man	C	M	Miller, 1989, 1346-D8	multiple (review)
phenacetin o-deethylase	liver	man	C	M	Sesardic, 1988, 1277-D4	increase
phospholipids	lipoprotein	rat	B	M	Latha, 1988, 1215-B12	increase
	lung	rat	B	M	Latha, 1988, 1215-B12	increase
	aorta	rat	B	M	Latha, 1988, 1215-B12	increase
	heart	rat	B	M	Latha, 1988, 1215-B12	increase
physiology	lungs	rat	B	M	Lai, 1987, 1100-D14	high vs. low nic., synerg.elas
plaque formation	-	mouse	C	M	Thomas, 1975, 13-K19 Thomas, 1974, 288-G1	- -
plasma osmolality	blood	man	C	M	Lambert, 1983, 469-E2	no effect

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## TOBACCO SMOKE EFFECTS

PARAMETER	TISSUE	SPECIES	EXP	TYPE	SOURCE	REMARKS
platelet adhesion, aggregation	blood	rat	-	M	Reese, 1975, 22-L23	-
		rat	C	M	Mikhail, 1979, 196-G10	increase
		?	-	M	Levine, 1973, 158-C11	-
platelet aggregation	blood	man	C	S	Davis, 1989, 1301-B11	decrease
	heart	dog	A	M	Gering, 1990, -	increase (also PREMIER)
PMN, number	BAL	mouse	C	M	Kew, 1987, 977-B9	increase
postlabeling adducts	placenta	man	C	M	Wogan, 1989, 1500-G3	-
	bronchus	man	C	M	Wogan, 1989, 1500-G3	-
	oral mucosa	man	C	M	Wogan, 1989, 1500-G3	increase
	larynx	man	C	M	Wogan, 1989, 1500-G3	-
potassium	serum	man	A	M	Larson, 1961, tob11/lb	transient decrease
prenatal toxicity	-	man	-	M	Barrett, 1981, 191-L9	-
primary and secondary response to SRBC	-	mouse	C	M	Thomas, 1973, 13-K16	-

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PARAMETER	TISSUE	SPECIES	EXP	TYPE	SOURCE	REMARKS
prolactin	serum	rat	A	M	Andersson, 1987, 1024-A1 Andersson, 1988, 1054-A1	no effect decrease
prostacyclin	BALF	rabbit	A	M	Witten, 1988, 1350-F11	increase
	plasma	rabbit	A	M	Witten, 1988, 1350-F11	increase
prostacyclin synthesis	vasc. endothel.	man	C	M	Nowak, 1987, -	induction
prostaglandin synthesis	macrophage	rat	B	M	Mobley, 1987, TS 036	no effect
prostaglandins	lung	hamster	-	M	Uotila, 1980, 13-L5	increase
	blood	man	A	E	Hockertz, 1993, Titisee	no change
prostaglandins E2 and F2 Alpha	lung macroph.	rabbit	-	S	Gunnison, 1989, -	SOT meeting
protein (cytosol)	lungs	rat	A	M	Chow, 1982, 1393-A12	no effect, vitamin E
protein synthesis	lung	mouse	-	M	Sershen, 1981, 13-I21	-
	brain	rat	-	M	Garrett, 1978, 25-G1	339-A13
	lung	rat	-	M	Garrett, 1978, 25-G1	-
	liver	mouse	-	M	Sershen,	-

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PARAMETER	TISSUE	SPECIES	EXP	TYPE	SOURCE	REMARKS
					1981, 13-I21	
protein synthesis	brain	mouse	-	M	Sershen, 1981, 13-I21	-
	liver	rat	-	M	Garrett, 1979, 339-A13	-
protein synthesis, macrophage	lung	-	-	-	Yeager, 1969, -	cited in FEP 75/2, p. 395
	-	-	-	-	Holt, 1973, 23-G20	-
	lung	-	-	-	Low, 1974, B 072	-
pyruvate kinase	blood	rat	A	M	Chow, 1982, 1393-A12	no effect; vitamin E
ras oncoprotein	plasma	man	C	M	Brinkworth , 1992, 1685-A1	no effect
red cell count	blood	rat	A	M	Chow, 1982, 1393-A12	increase; vitamin E
reduction of alveolar space	lung	mouse	C	M	Matulionis , 1984, 348-C11	-
respiration rate	-	rat	B	-	Binns, 1978, 20-C18	decrease
respiratory physiology	-	man	C	M	Gillissen, 1989, 1301-C9	slight impairment
retinol concentration	blood	man	C	M	Sulsky, 1988, 1195-F14	decrease
S9 protein	lung	rat	A	M	Gupta,	no effect

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PARAMETER	TISSUE	SPECIES	EXP	TYPE	SOURCE	REMARKS
					178-G9	
SCE	blood	man	-	M	Lambert, 1980, 19-I27	-
secretory cells hyperplasia	trachea	rat	B	M	Rogers, 1988, 1159-E9	recovery with N-acetylcysteine
	lungs	rat	B	M	Rogers, 1988, 1159-E9	recovery with N-acetylcysteine
sister chromatid exchange	lymphocytes	man	C	M	Perera, 1991, 1574-D2 Brinkworth , 1992, 1685-A1	increase no effect
sister chromatid exchange	lymphocytes	man	C	E	Gorgels, 1992, A909	no effect
skin lesions over nasal bones	skin	mouse	C	M	Matulionis , 1984, 348-C11	-
sodium	urine	man	C	M	Lambert, 1983, 469-E2	no effect
sperm abnormalities	sperm	man	C	M	Evans, 1981, 478-B5	-
squamous metaplasia	lungs	man	C	M	Trichopoulos, 1992, -	-
superoxide dismutase	liver	rat	B	M	Gupta, 1988, 1215-A8	increase
	lungs	rat	B	M	Gupta, 1988, 1215-A8	no effect
superoxide release	macrophages	rat	C	M	Drath, 1980,	-

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PARAMETER	TISSUE	SPECIES	EXP	TYPE	SOURCE	REMARKS
					804-B14	
surfactant	lung	man	-	M	Finley, 1972, 95-C5	-
		?		M	Le Mesurier, 1979, 14-J21	-
		rat	B	M	Jones, 1973, 459-A10	-
		man	-	M	Kollerstro m, 1977, 9-C6	-
T lymphocyte, number	lung	man	-	M	Daniele, 1977, 226-E7	-
	blood	man	-	M	Ginns, 1982, 210-B12 Miller, 1982, 817-C3	-
T lymphocyte, stimulation	lung	man	-	M	Daniele, 1977, 226-E7	-
	spleen	moneky	C	M	Sopori, 1985, 640-F9	decrease, ConA
	-	mouse	-	M	Keast, 1981, 831-F2	-
	blood	man	-	M	Petersen, 1983, 341-D14	-
	lung	rat	-	M	Gregson, 1981, 20-H13	-
	thymus	man	-	M	Silverman,	-

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## TOBACCO SMOKE EFFECTS

PARAMETER	TISSUE	SPECIES	EXP	TYPE	SOURCE	REMARKS
					1975, 341-G6	
T lymphocytes	blood	man	A	E	Hockertz, 1993, Titisee	changed composition
T lymphocytes, number	blood	man	-	M	Ginns, 1983, 803-A13	-
tear secretion	eye	human	A	M	Marquardt, 1986, 757-E5	decrease
				S	Marquardt, 1986, 757-E5	decrease
teratogenicit y		rat	-	-	Reckzeh, G., 1975, 619-F6	-
thickening of lung alveolar septa		mouse	C	M	Matulionis , 1984, 348-C11	-
thiobarbituri c acid reactive substances	lungs	rat	A	M	Chow, 1982, 1393-A12	no effect; vitamin E
thioether	urine	rat	C	M	Graziano, 1984, 214-A12	-
		man		M	van Doorn, 1979, 41-F3 Bos, 1992, D7417 Heinonen, 1983, 590-A13	- decrease by carotene -
thioether excretion	urine	man	C	M	Karakaya, 1989, -	increase
thromboplasti c activity	blood	rat	-	M	Mikhail, 1979, 196-G10	-

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PARAMETER	TISSUE	SPECIES	EXP	TYPE	SOURCE	REMARKS
thromboxane B2	lung macroph.	rabbit	-	S	Gunnison, 1989, -	SOT meeting
thromboxane synthesis	macrophage	rat	B	M	Mobley, 1987, TS 036	no effect
tidal volume	-	rat	B	-	Binns, 1978, 20-C18	increase
toluene clearance	-	man	C	M	Hhelm, 1988, -	induction
toluene concentration	blood	man	C	M	Hajimiragh a, 1989, 1368-E10	increase
transferrin	serum	man	C	M	Galdston, 1987, 1323-B12	no effect
trigeminal activity	trachea	rat	A	M	Gepetti, 1993, Br.J.Ph.	comparison to capsaicin
triglycerides	blood	rat	-	M	Mikhail, 1979, 196-G10	-
	aorta	rat	B	M	Latha, 1988, 1215-B12	increase
	blood	rat	A	M	Chow, 1982, 1393-A12	no effect; vitamin E
	serum	man	C	M	Craig, 1989, 1288-A1	increase: metaanalysis
	lipoprotein	rat	B	M	Latha, 1988, 1215-B12	increase
	heart	rat	B	M	Latha, 1988, 1215-B12	increase

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## TOBACCO SMOKE EFFECTS

PARAMETER	TISSUE	SPECIES	EXP	TYPE	SOURCE	REMARKS
triglycerides	lung	rat	B	M	Latha, 1988, 1215-B12	increase
TSH	serum	rat	A	M	Andersson, 1987, 1024-A1	decrease
tumor cell killing	-	mouse	C	M	Holt, 1976, 822-C10	-
uracil DNA glyoxylase	free lung cells	man	C	M	Vaehaekang as, 1991,	no effect
uterus tumors	-	man	C	M	Mathe, 1988, 1316-F4	epidemiology
VDP glucuronyltra nsferase	lungs	man	C	M	Petruzzell i, 1988, 1206-E10	increase
viscosity	blood	rat	-	M	Coates, 1978, 22-C8	-
vitamic C	blood	rat	A	M	Chow, 1982, 1393-A12	decrease; vitamin E
	lungs	rat	A	M	Chow, 1982, 1393-A12	no effect; vitamin E
vitamin B12	blood	man	C	M	Dastur, 1972, -	decrease
vitamin B2 concentration	blood	man	C	M	Sulsky, 1988, 1195-F14	decrease
vitamin C	serum	man	C	M	Schectman, 1991, D4575	decrease
vitamin C concentration	lung	guinea pig	B	S	Airriess, 1988, 1143-A1	no effects
				M	Airriess,	no effects

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					1988, 1143-A1	
vitamin C concentration	lungs	guinea pig	C	M	Chow, 1987, 1211-A2	no effect
	liver	guinea pig	C	S	Chow, 1987, 1211-A2	no effect
	lungs	rat	C	M	Chow, 1987, 1211-A2	no effect
	liver	rat	C	S	Chow, 1987, 1211-A2	no effect
	serum	man	C	M	Smith, 1987, 1213-G5	reduced vs. nonsmokers
	lungs	rat	C	S	Chow, 1987, 1211-A2	no effect
	liver	rat	C	M	Chow, 1987, 1211-A2	no effect
	lungs	guinea pig	C	S	Chow, 1987, 1211-A2	no effect
	liver	guinea pig	C	M	Chow, 1987, 1211-A2	no effect
vitamin C intake	-	man	C	M	Smith, 1987, 1213-G5	decrease vs. nonsmokers
vitamin E	blood	rat	A	M	Chow, 1982, 1393-A12	no effect; vitamin E
vitamin E concentration	lung	guinea pig	B	M	Airriess, 1988, 1143-A1	increase, no ef. liver, kidney

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## TOBACCO SMOKE EFFECTS

PARAMETER	TISSUE	SPECIES	EXP	TYPE	SOURCE	REMARKS
vitamin E concentration	lung	guinea pig	B	S	Airriess, 1988, 1143-A1	increase, no ef. liver, kidney
	plasma	man	C	M	van Rensburg, 1989, 1395-G7	no effect
volume, total	lung	mouse	C	M	Matulionis, 1984, 348-C11	decrease
white blood cell count	blood	rat	A	M	Chow, 1982, 1393-A12	no effect; vitamin E
[4~gen radicals	PMN leucocytes	man	C	M	Kalra, 1991, 1592-D13	increase (Zymosan)

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